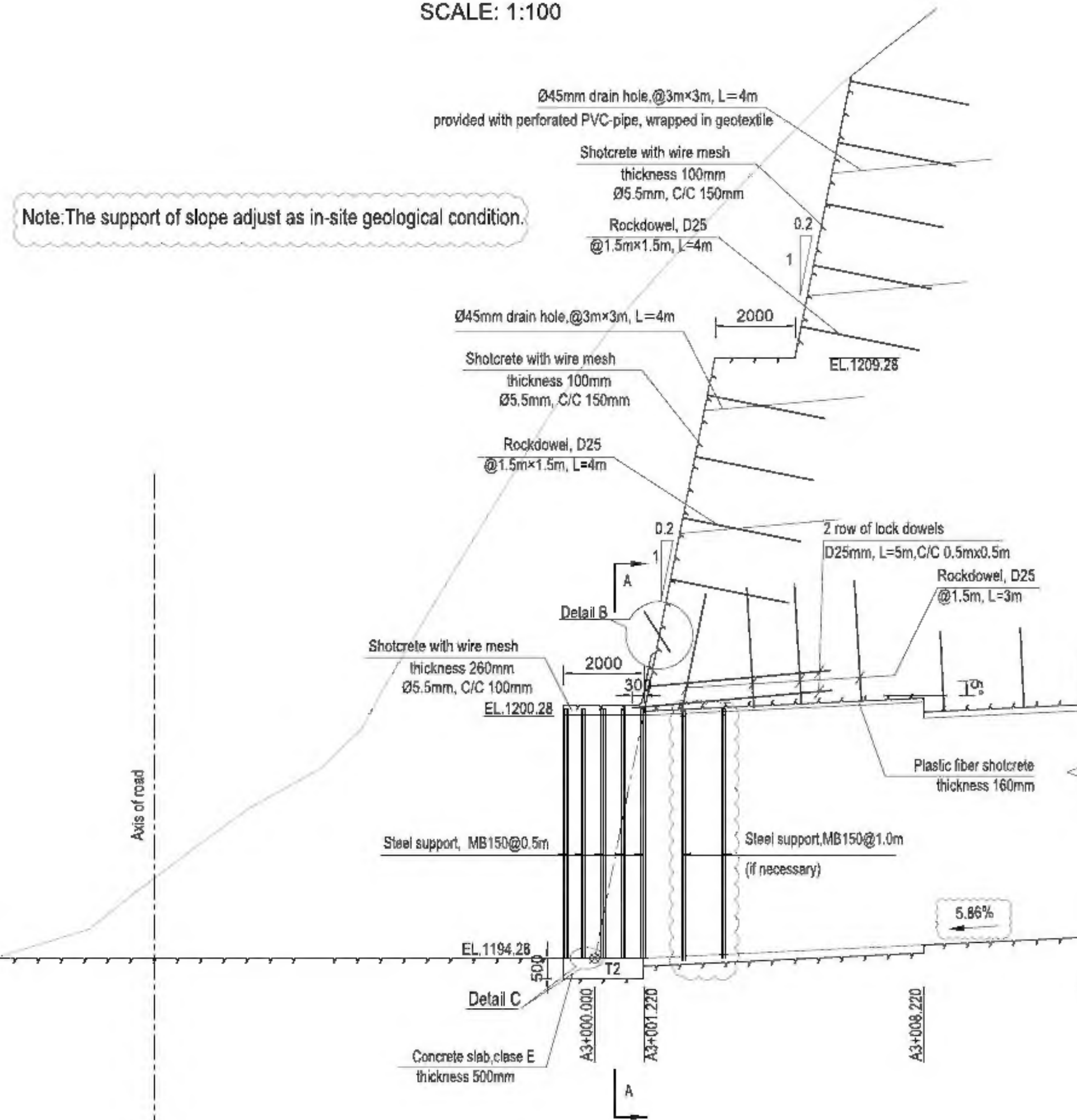




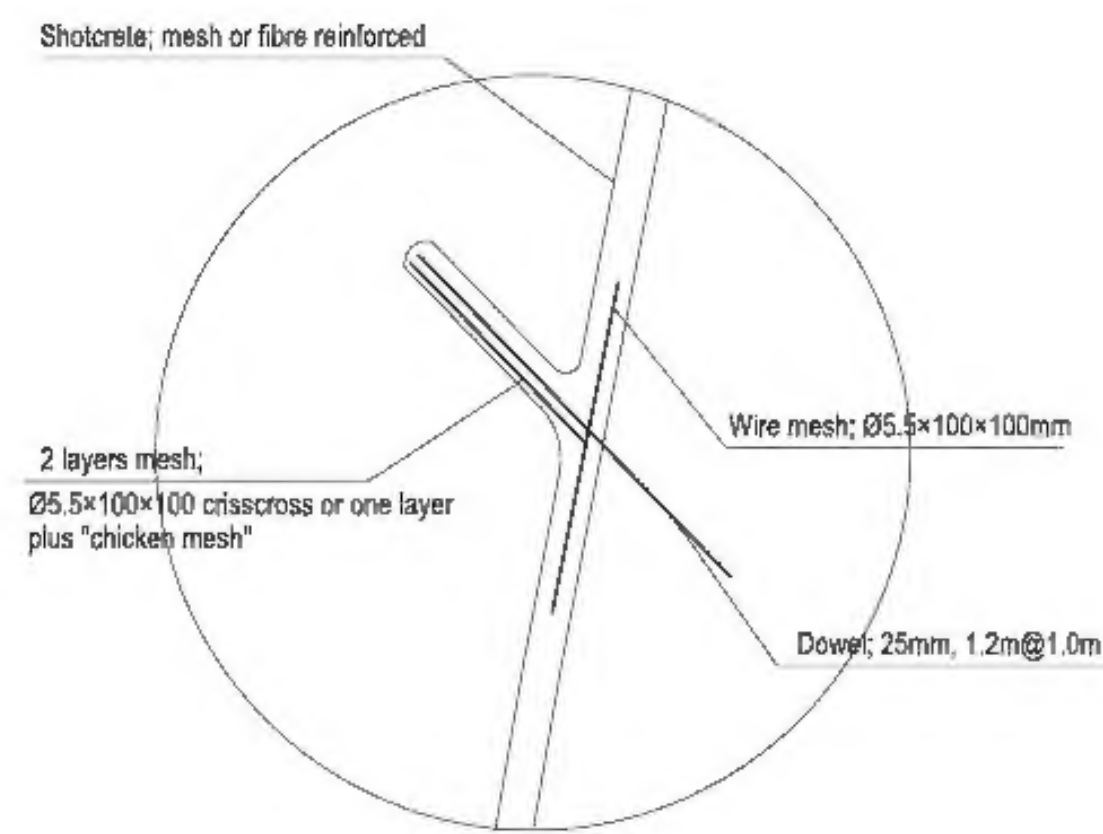
## Detail A

SCALE: 1:100



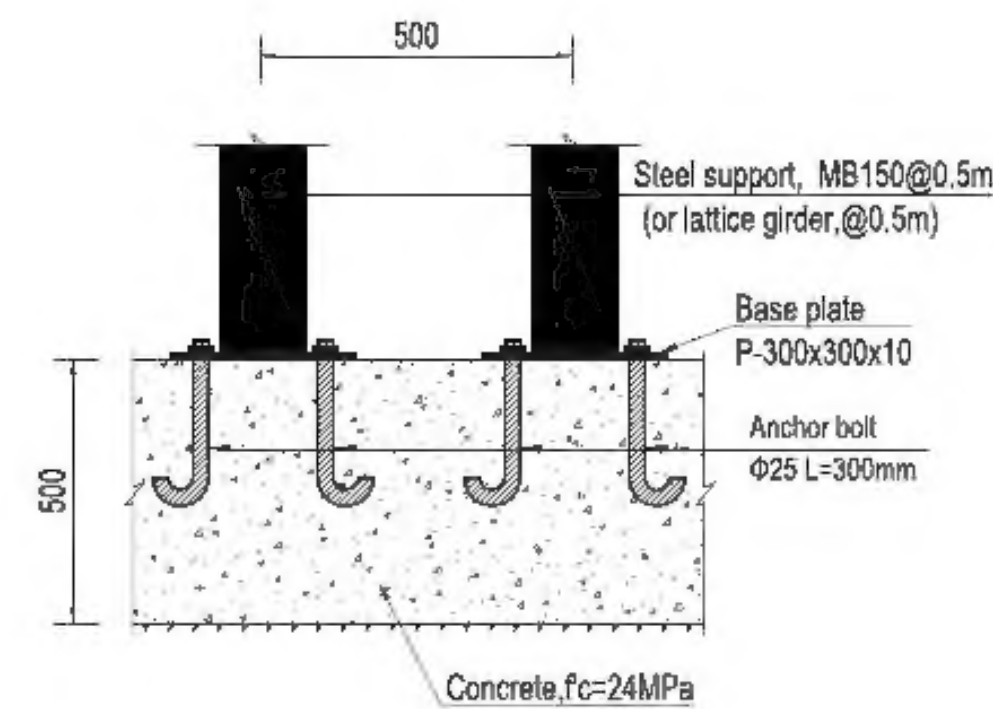
## Detail B

SCALE: 1:20



## DETAIL C

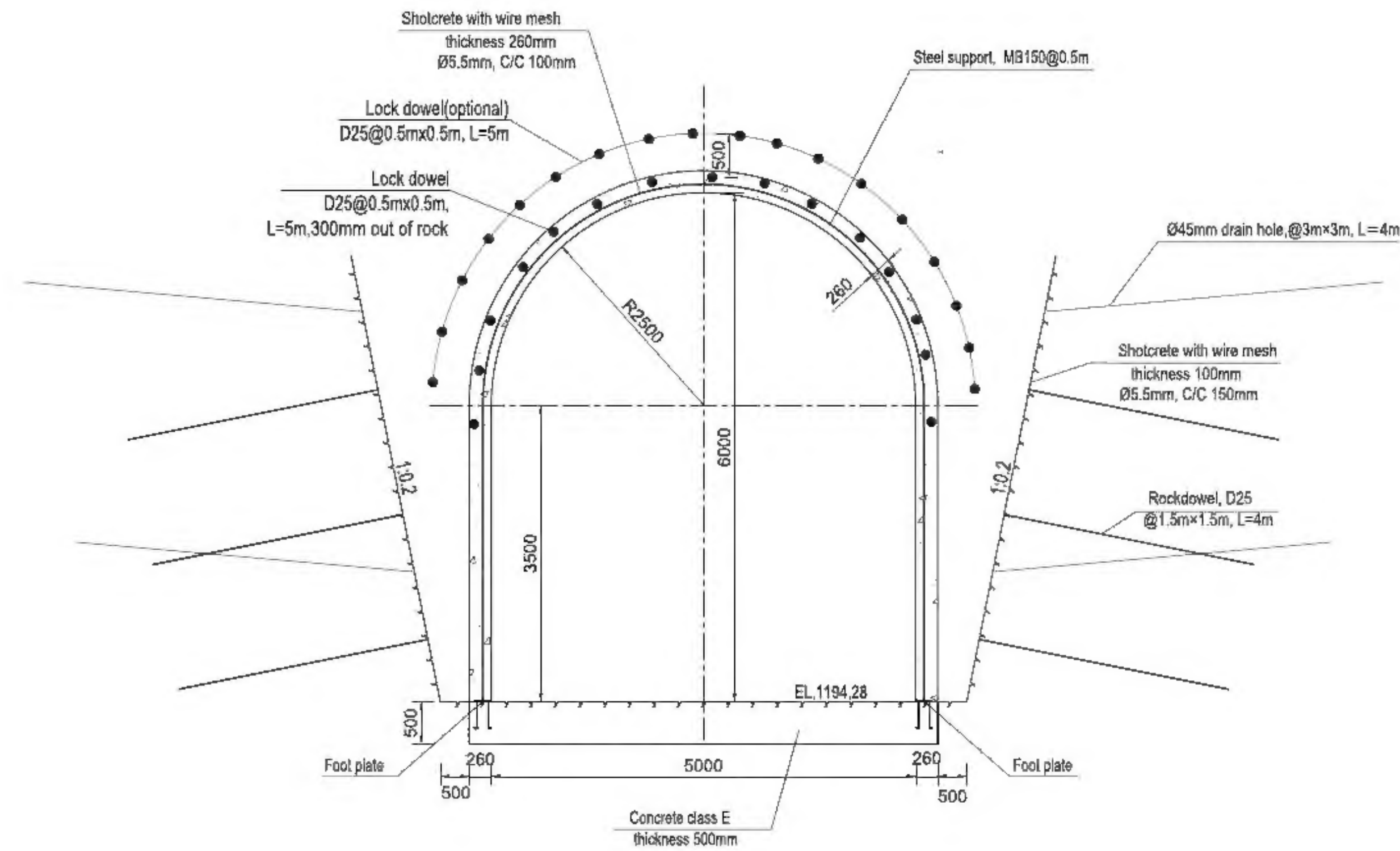
SCALE: 1:50



## SCHEMATIC DIAGRAM OF OPEN TUNNEL

(SECTION A-A)

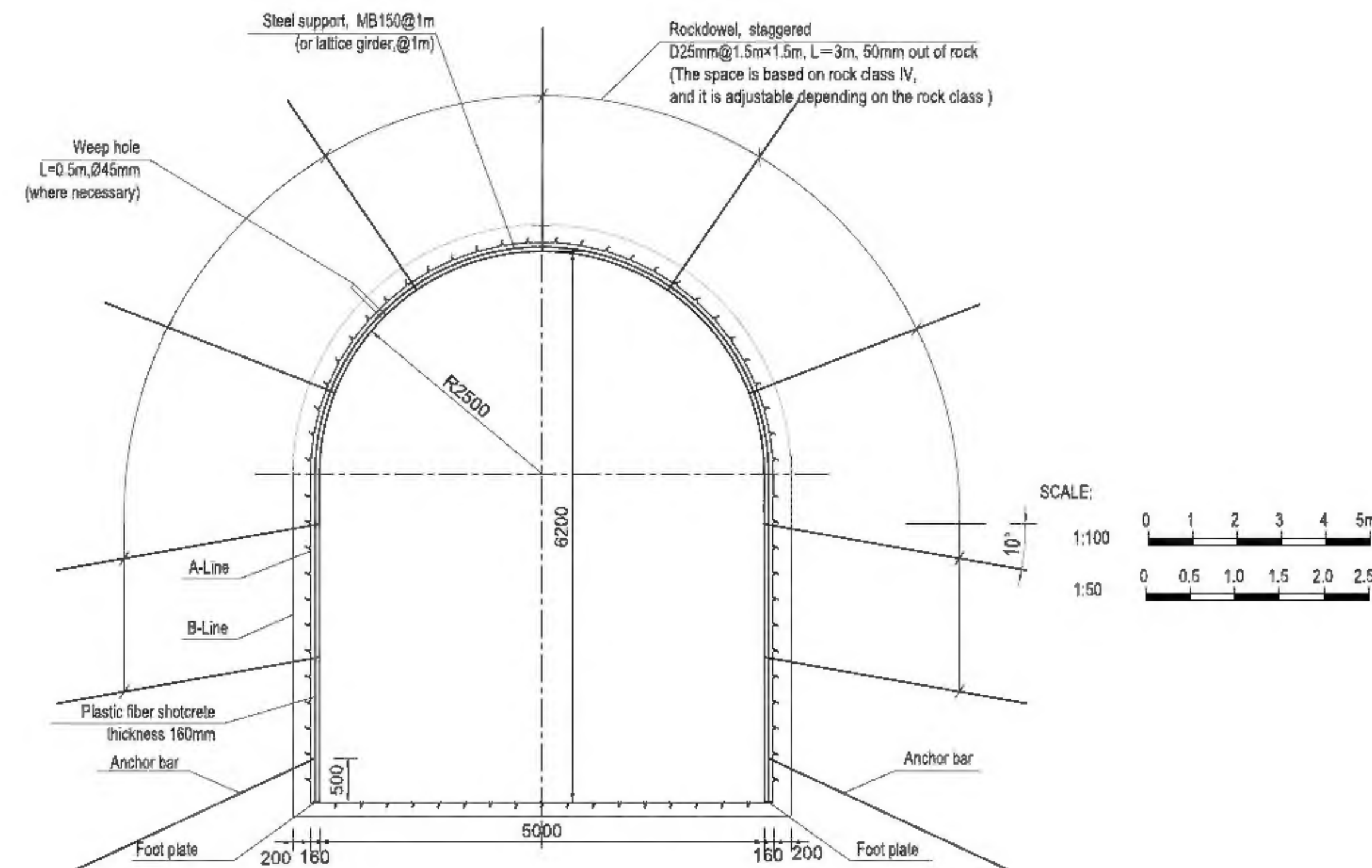
SCALE 1:50



## SUPPORT TYPE OF TUNNEL ENTRANCE SECTION

(A3+001.220-A3+008.220)

SCALE 1:50



## NOTE

1. This set of drawings are the excavation and initial support of Adit No.3.
2. All dimensions are in millimeters, and coordinates, chainages & elevations are in meters.
3. The thickness of concrete cover is 50mm.
4. Symbol description:  
A-Line is the design excavation line.  
B-Line is the overbreak line.  
R denotes round bar, yield strength of the round bar is 280MPa.  
D denotes deformed bar, yield strength of the deformed bar is 500MPa.
5. Strength specification of concrete & shotcrete:  
(1) Concrete class E: Cylinder specified compressive strength 24MPa at 28 days.  
(2) Concrete class C: Cylinder specified compressive strength 12MPa at 28 days.  
(3) Shotcrete: Cylinder specified compressive strength 21MPa at 28 days.
6. Other notes see sheet 1.

## REFERENCE DRAWINGS

UTI-C-150-CVL-DG-43002	Surrounding Rock Stability Calculations of Adit No.3
UTI-C-000-CVL-DG-40001-01-05	Detailed Design Drawing of Excavation and Support for Underground Cavern
UTI-C-645-CVL-DG-70005	Layout Drawing of Monitoring for Adit No.3

## SYMBOL AND LEGEND

## FOR APPROVAL

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REV. NO.	DATE	DESCRIPTION	DRAWN	CHKD.	APPD.
E	21.JAN.2022	FOR APPROVAL	DONG Z.Z.	Lei Y.G.	Han J.B.
D	10.DEC. 2021	FOR APPROVAL	DONG Z.Z.	Lei Y.G.	Han J.B.
C	10.SEP. 2021	FOR APPROVAL	DONG Z.Z.	Lei Y.G.	Han J.B.
B	25.JUL. 2021	FOR APPROVAL	DONG Z.Z.	Lei Y.G.	Han J.B.
A	25.MAY. 2021	FOR APPROVAL	DONG Z.Z.	Lei Y.G.	Han J.B.

PROJECT TITLE  
Upper Trishuli-1 HEP (216MW)

OWNER  
**NWEDC**  
NARAYAN WATERSHED DEVELOPMENT CORPORATION LTD.

OWNER'S ENGINEER  
**TRACTEBEL**  
**JADE CONSULT**

CONTRACTOR  
**DOOSAN Doosan Heavy Industries & Construction**

DRAWING TITLE  
EXCAVATION AND INITIAL SUPPORT DRAWINGS OF ADIT NO.3 (2/4)

INDEX	DRAWING NUMBER	SHEET NO.	REV. NO.
A	UT1-C-150-CVL-DG-43004	2 OF 4	E

A1 (594 x 841 MM) 1



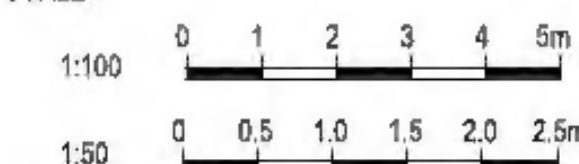
## SCALE 1:100



NOTE

1. This set of drawing support of adit No.3.
2. All dimensions are in millimeters, and coordinates, chainages & elevations are in meters.
3. Other notes see sheet 1

SCALE:



## REFERENCE DRAWINGS

UT1-C-150-CVL-00-43002	Surrounding Rock Stability Calculation of Adit NO.3
UT1-C-000-CVL-00-40001-01-05	Detailed Design Drawing of Excavation and Support for Underground Cavern
UT1-C-845-CVL-00-70005	Layout Drawing of Monitoring for Adit No.3

SYMBOL AND LEGEND

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D	10.OCT. 2021	FOR APPROVAL	DONG Z.Z	Lei Y.G.	Han J.B
C	10.SEP. 2021	FOR APPROVAL	DONG Z.Z	Lei Y.G.	Han J.B.
B	25.JUL. 2021	FOR APPROVAL	DONG Z.Z	Lei Y.G.	Han J.B.
A	25.MAY. 2021	FOR APPROVAL	DONG Z.Z	Lei Y.G.	Han J.B.
REV NO.	DATE	DESCRIPTION	DRAWN	CHKD.	APPO.

PROJECT TITLE

Upper Trishuli-1 HEP (216MW)

OWNER



OWNER'S ENGINEER



CONTRACTOR

**DOOSAN** Doosan Heavy Industries & Construction

DRAWING TITLE
---------------

EXCAVATION AND INITIAL SUPPORT DRAWINGS  
OF ADIT NO.3 (3/4)

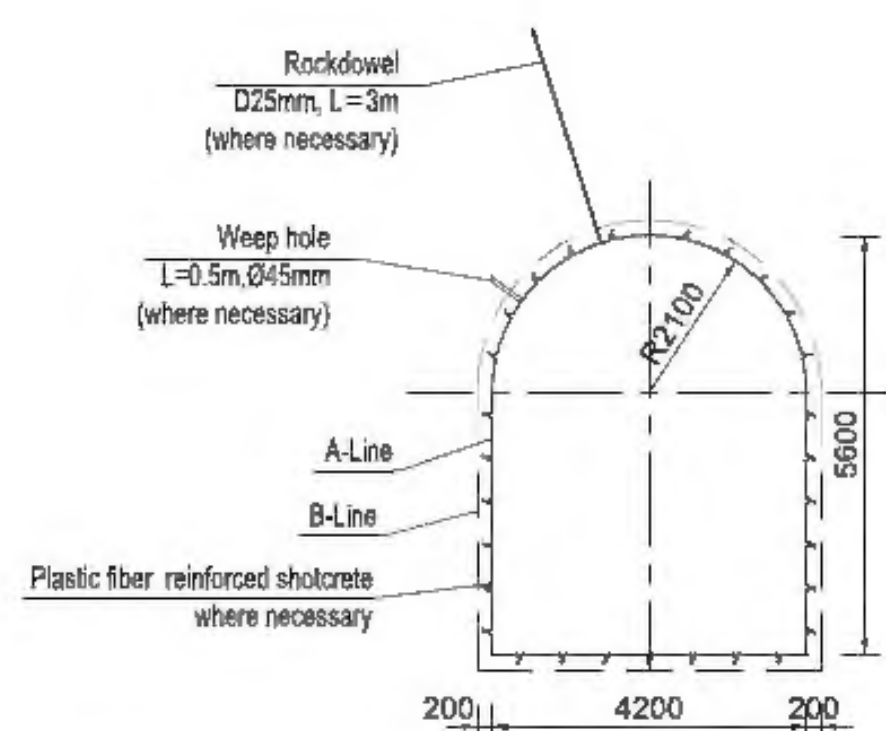
INDEX	DRAWING NUMBER	SHEET NO.	REV. NO.
A	UT1-C-150-CVL-DG-43004	3 OF 4	E

A1 (594 x 841 MM) 1
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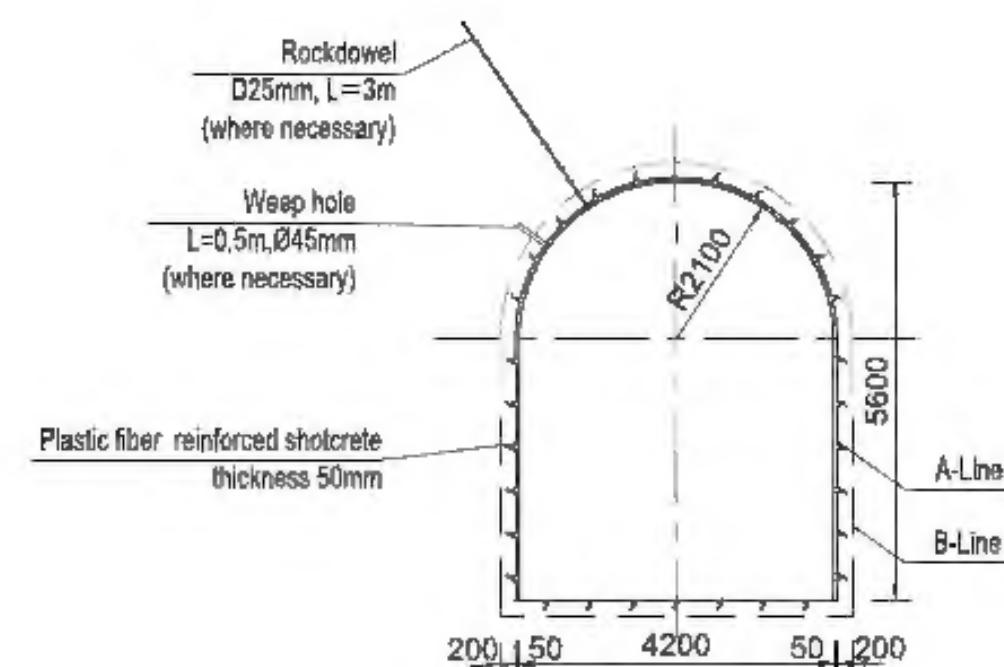
## SUPPORT TYPE OF ROCK CLASS I

SCALE 1:100



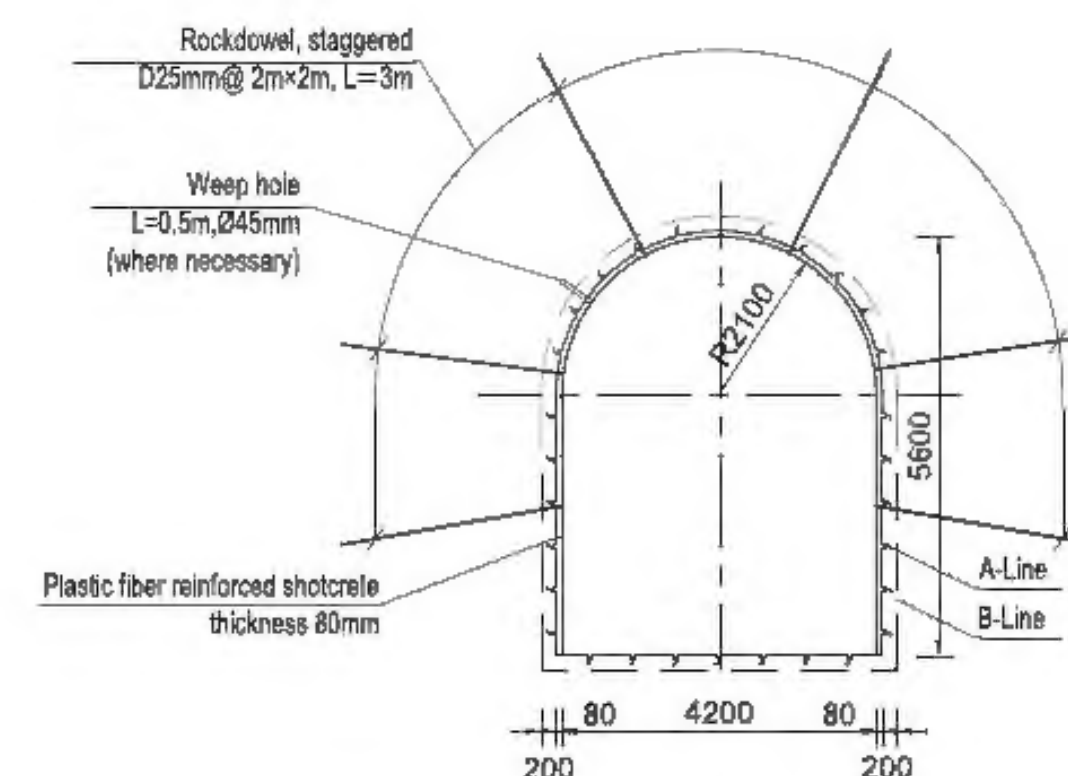
## SUPPORT TYPE OF ROCK CLASS II

SCALE 1:100



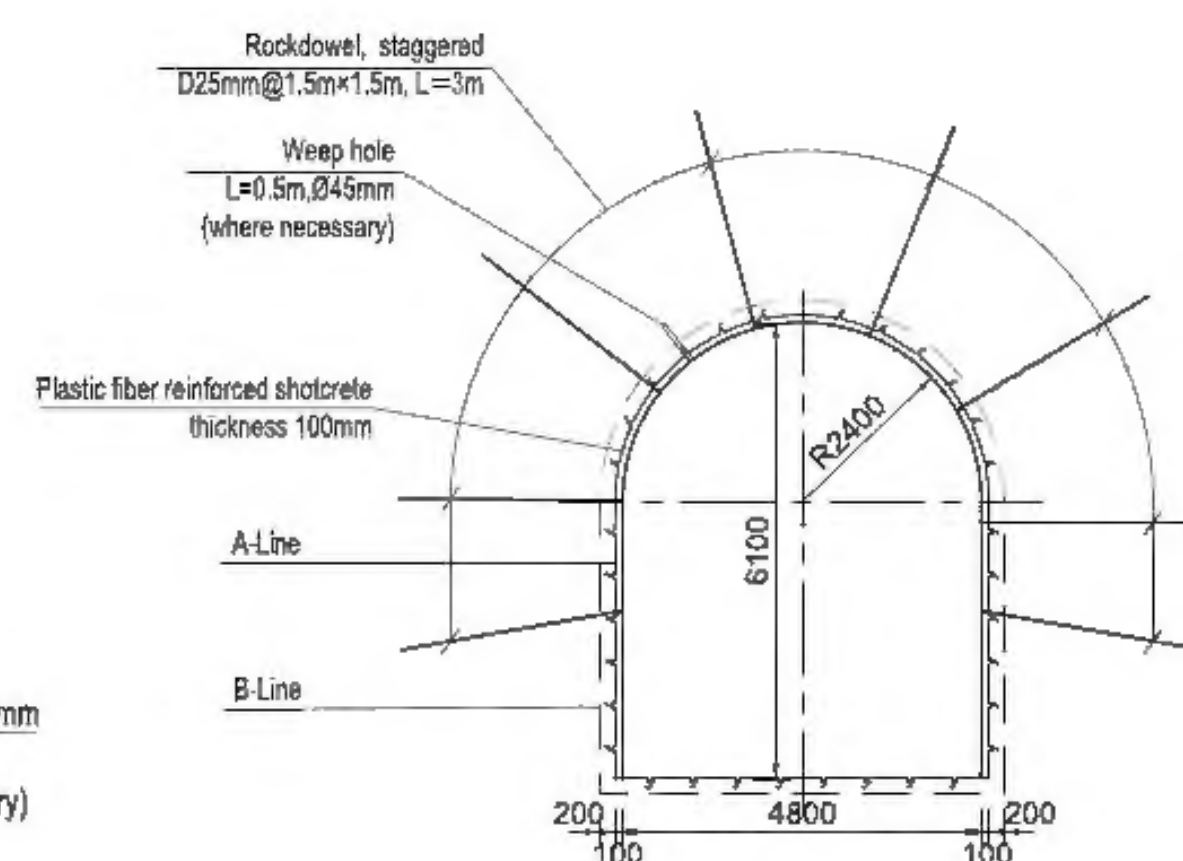
## SUPPORT TYPE OF ROCK CLASS III

SCALE 1:100



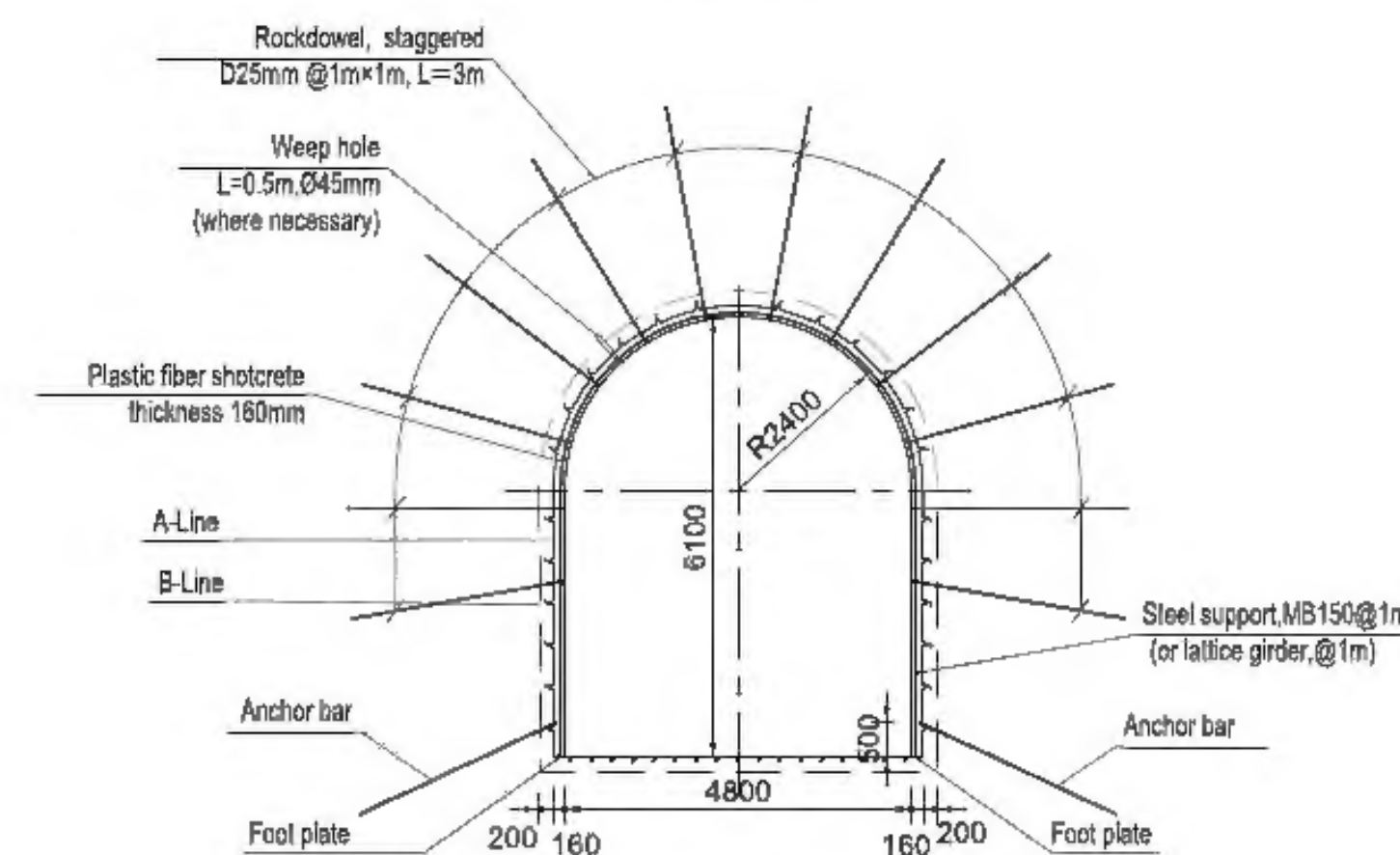
## SUPPORT TYPE OF ROCK CLASS IV

SCALE 1:100



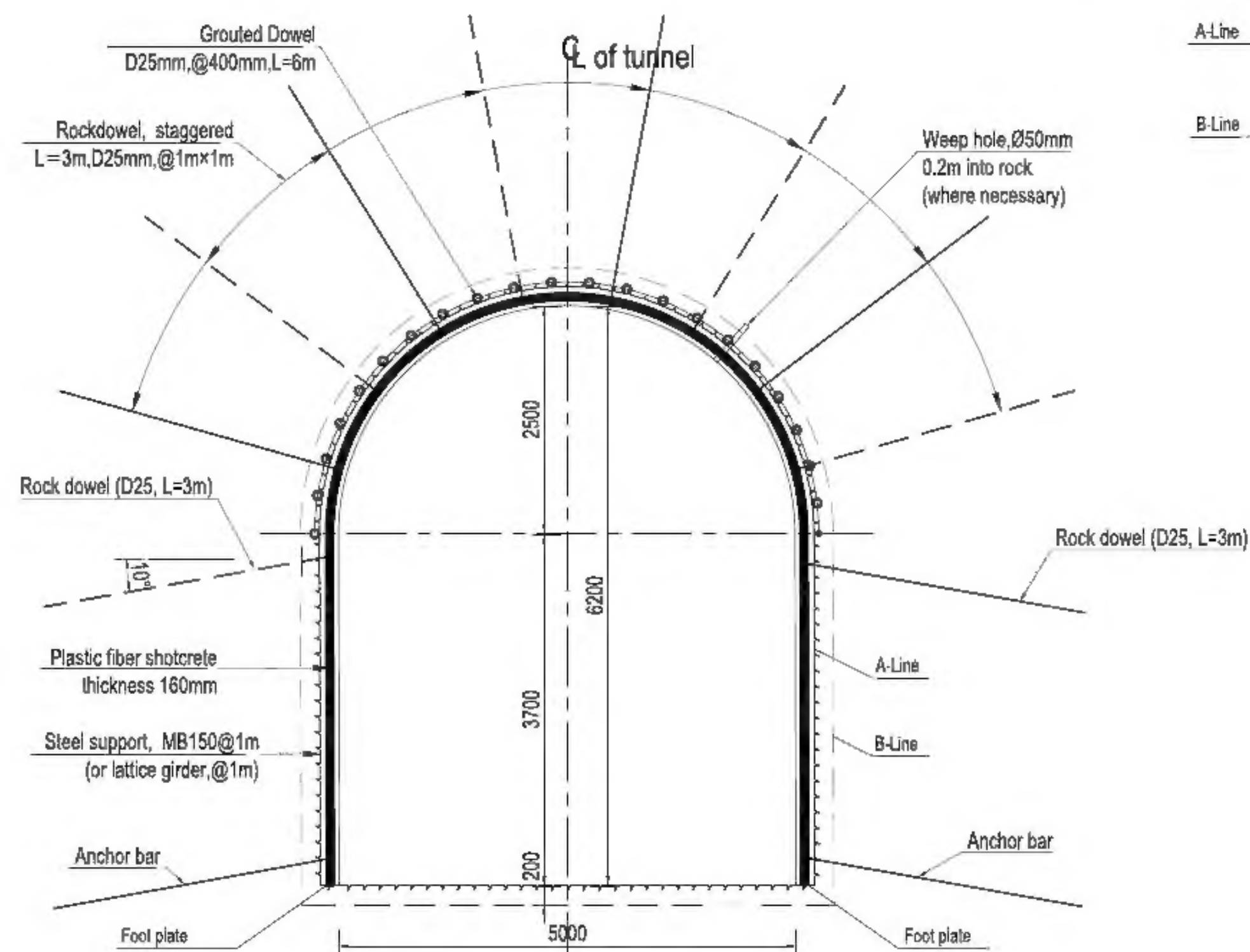
## SUPPORT TYPE OF ROCK CLASS V

SCALE 1:100



## ACROSS SECTION OF FOREPOLING

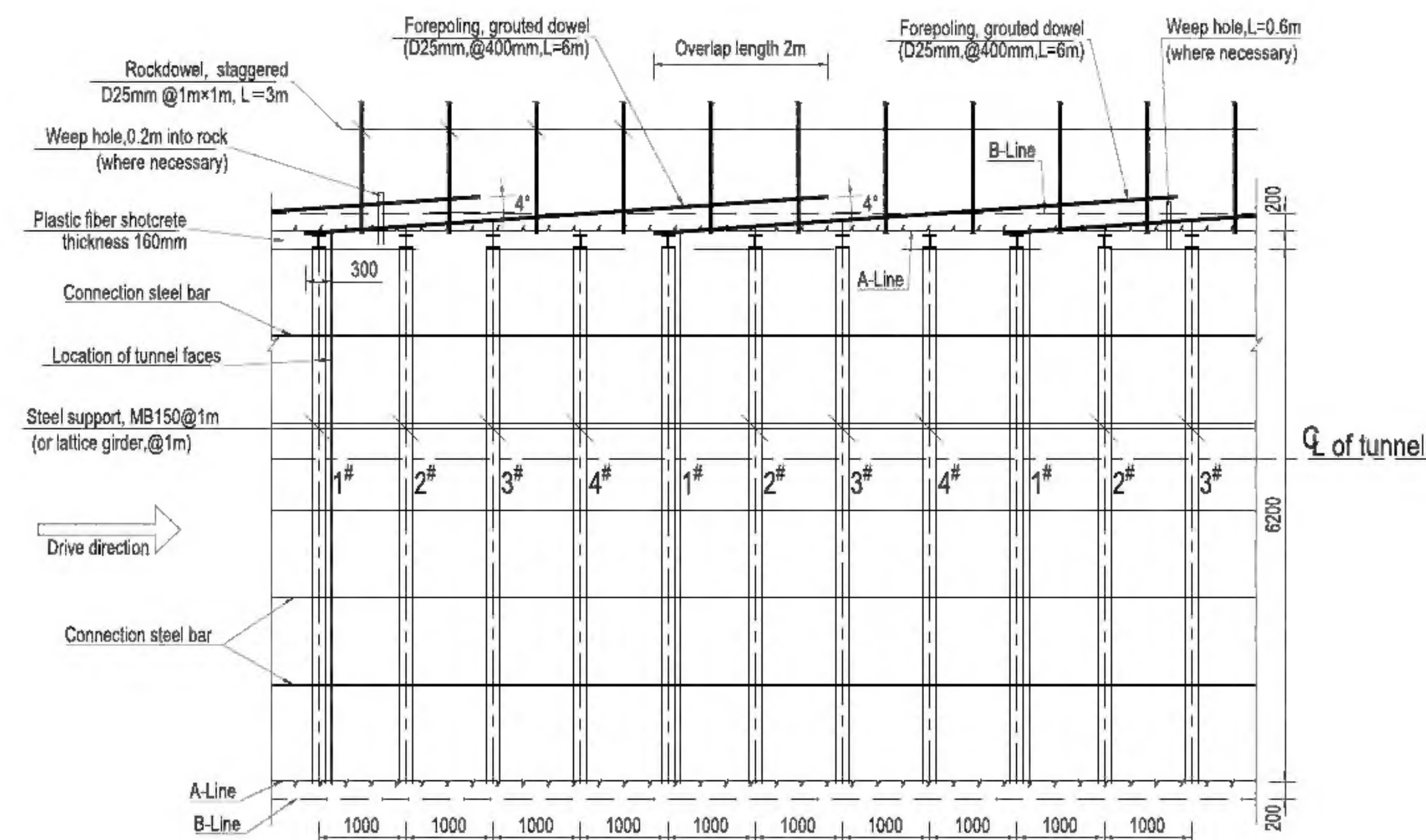
SCALE 1:100



## LONGITUDINAL PROFILE OF FOREPOLING

Applied to class V

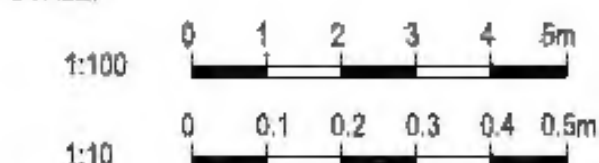
SCALE 1:50



### NOTE

1. This set of drawings are the excavation and initial support of adit No.3.
2. All dimensions are in millimeters, and coordinates, chainages & elevations are in meters.
3. The canopy forepoling is mainly used in the tunnel section with poor surrounding rock geology, which should be used together with dowel and steel support (or lattice girder), and the spacing of dowel should be consistent with that of steel support.
4. The steel support (or lattice girder) to rock class IV is subjected to the exposed geological condition.
5. The excavation profile may need to be adjusted to a "saw-tooth profile" and size of ribs/girders may also be adjusted.
6. Other notes see sheet 1 & sheet 2.

### SCALE:



### REFERENCE DRAWINGS

UTI-C-150-CVL-DG-43002	Surrounding Rock Stability Calculations of Adit No.3
UTI-C-000-CVL-DG-40001-01-05	Detailed Design Drawing of Excavation and Support for Underground Cavern
UTI-C-645-CVL-DG-70005	Layout Drawing of Monitoring for Adit No.3

### SYMBOL AND LEGEND

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PROJECT TITLE  
Upper Trishuli-1 HEP (216MW)

OWNER  
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NATIONAL WATER DEVELOPMENT CORPORATION

OWNER'S ENGINEER  
**TRACTEBEL**  
ONQING **jade CONSULT**

CONTRACTOR  
**DOOSAN Doosan Heavy Industries & Construction**

DRAWING TITLE  
EXCAVATION AND INITIAL SUPPORT DRAWINGS  
OF ADIT NO.3 (4/4)

INDEX	DRAWING NUMBER	SHEET NO.	REV. NO.
A	UT1-C-150-CVL-DG-43004	4 OF 4	E

A1 (594 x 841 MM) 1